## REMARKS/ARGUMENTS

Claims 1-7 are active in this application, claims 8-15 having been withdrawn by the Examiner due to a restriction requirement. Claims 1 and 2 have been amended to specify that step a) of the reaction is performed in an oxygenous gas atmosphere. This amendment is supported by the specification at page 19, lines 11-12. Further Claims 1 and 2 have been amended to clarify the meanings of R5 and R13. These amendments are supported by the claims as originally filed. Claim 5 has been amended to specify that step b) of the reaction is also performed in an oxygenous gas atmosphere. This amendment is supported by claim 5 as originally filed. No new matter has been added by these amendments.

The present invention relates to a process for preparing an ester F of a polyalcohol A with at least one $\alpha$, $\beta$-ethylenically unsaturated carboxylic acid B. In particular, the process comprises:

a) reacting a polyalcohol A with at least one $\alpha,\beta$-ethylenically unsaturated carboxylic acid B in the presence of at least one esterification catalyst C and at least one polymerization inhibitor D, and a solvent E which forms an azeotrope with water to form an ester F, where this reaction is performed in an oxygenous gas atmosphere;

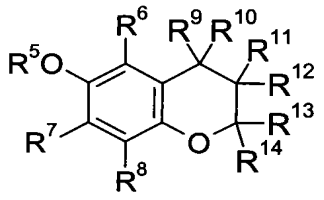
b) removing at least a portion of the water formed in a) from the reaction mixture, b) during and after a) or after step a),

f) neutralizing the reaction mixture,

h) removing the solvent by distillation, and

i) stripping with a gas that is inert under the reaction conditions or both steps h) and i).

The polymerization inhibitor D is required to be at least one 6-chromanol derivative of the formula (III)



(III)

where

$R^6$, $R^7$, $R^8$, $R^9$, $R^{10}$, $R^{11}$, $R^{12}$, and $R^{14}$ are each independently hydrogen, $C_1$-$C_4$-alkyl, and $R^5$ is hydrogen, $C_1$-$C_4$-alkyl, $C_1$-$C_4$-alkylcarbonyl, $C_1$-$C_4$-alkyloxycarbonyl, $C_6$-$C_{12}$-arylcarbonyl or $C_6$-$C_{12}$-aryloxycarbonyl,

and $R^{13}$ is hydrogen, $C_1$-$C_4$-alkyl, or chlorine.

The invention further relates to use of this process in preparing a crosslinked hydrogel.

Applicants have found that by using the required polymerization inhibitor D that is a 6-chromanol derivative of formula (III), in an oxygenous gas atmosphere (such as air or a mixture of air and nitrogen), one obtains products having significantly lower deposits, better color or both.

The objection to claims 1 and 2 have been obviated by the present amendments.

Claim 2 stands rejected for obviousness type double patenting over claim 1 of US 7,250,481, in view of JP '980. Claims 1 and 2 stand provisionally rejected for obviousness type double patenting over claims 7 and 14-16 of copending application 10/516,702 in view of JP '980. Claims 1 and 2 stand provisionally rejected for obviousness type double patenting over claims 11 and 17 of copending application 10/551,630 in view of JP '980. Claims 1-6 stand rejected under 35 U.S.C. 103 over the '481 patent in view of JP '980. Claim 7 stands rejected under 35 U.S.C. 103 over the '481 patent in view of JP '980 and further in view of Schlosser and Otera.

These rejections have been stated together as they all hinge on essentially the same issue. In particular, the Examiner has clearly stated that none of the '481 patent, the copending '702 application, or the copending '630 application disclose anything regarding the use of a 6-chromanol derivative of formula (III) as required in the present invention, particularly in a reaction such as being carried out in step a) of the present invention. The Examiner has relied on the discussion of JP '980 in the present specification at page 1, lines 23-36, and its abstract, to suggest that combining the teachings of JP '980 with any of these primary references would be obvious on the basis that Applicants state that JP '980 discloses a stabilizer against free-radical polymerization or oxidative decomposition using a similar chroman derivative. However, as noted in the present specification at page 1, lines 32-33, JP '980 discloses stabilization of vinyl monomers in general, and discloses stabilization of acrylic acid in an inert atmosphere. Applicants provide herewith an English translation of JP '980 for the Examiner's consideration. As noted in this translation, the stabilization of acrylic acid is only shown in an inert atmosphere in the absence of oxygen. (see Example 1 of JP '980). The other examples and comparative examples merely describe the use of the chroman derivative in preventing decomposition in the oxidation of white oil, a decidedly different type of reaction and different type of compound to be stabilized.

None of these examples (nor the other disclosure in JP '980) would suggest that the 6-chromanol compounds of the present invention would be useful or successful in inhibiting polymerization in the present invention reaction, particularly in an oxygenous gas atmosphere!. The data within the present application, however, provide a clear showing that the use of such a polymerization inhibitor D in the present invention provides clear advantages in the present reaction compared to the use of other types of inhibitors, as measured by the combination of amount of deposits present in the reaction and HAZEN color number. As shown in the present examples, using a 6-chromanol of formula (III) gave a

combination of low deposits (0-1 part) and good color numbers (see Examples 1-3 on pages 39-40). However, upon use of other types of polymerization inhibitors, either or both of the deposits or HAZEN color numbers were unacceptably high. Applicants note that in the case of Comparative Example 4, while no deposits were observed, the color number was through the roof at a value of 887!. In Comparative Example 3, while the HAZEN color number was near acceptable levels at 88, the deposits were unacceptably high at 17 parts! Comparative Examples 1 and 2 had color numbers of 131 and 55 respectively, but had unacceptably high deposit levels of 2 and 3 parts, respectively.

Accordingly, Applicants have shown that the use of a 6-chromanol derivative of formula (III) in reaction a) in an oxygenous gas atmosphere, as required in the present invention, provides significant improvements in the reaction, with comparable yields, but significantly better combination of low deposits level and HAZEN color numbers, when compared to other types of polymerization inhibitors. These types of improvements IN AN OXYGEN containing atmosphere are nowhere suggested by JP '980 nor would they be expected by one of ordinary skill in the art. Further, it is noted that the polymerization inhibitors used in the Comparative Examples of the present application correspond to several of the types disclosed in the '481 patent. The improvements seen using the present invention compared to these types of conventional polymerization inhibitors cannot be expected based upon the '481 patent, JP '980 or the other cited references. Accordingly, any assertion of obviousness based upon the combination of these various references has been amply rebutted by the data presented in the present specification, and the rejections should be withdrawn.

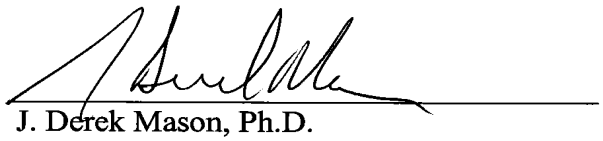
As to the obviousness-type double patenting rejections, this showing of unexpected results is also sufficient to overcome the obviousness-type double patenting rejection, since none of the claims of the primary references of these rejections disclose or suggest the use of a 6-chromanol derivative of formula (III) as a polymerization inhibitor in the reaction

corresponding to reaction a) of the present claims. As such, these rejections should likewise be withdrawn.

Applicants submit that the application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



J. Derek Mason, Ph.D.
Attorney of Record
Registration No. 35,270

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)